

U.S. Pat. Appl. 10/507,205

**List of Current Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 15 (canceled).

16. (Previously presented) The transmitter as claimed in claim 20, wherein: the adjustment variables (K1, K2, K3) are stored in a memory and are digitally adjustable.

17. (Previously presented) The transmitter as claimed in claim 20, wherein: said regulating circuit is embodied as an integrated circuit, or said regulating circuit and said pick-up unit are embodied as an integrated circuit.

18. (Previously presented) The transmitter as claimed in claim 17, wherein:

said integrated circuit also contains a circuit part, which generates from the signal current (I) a supply voltage (V) for the transmitter or parts thereof.

19. (Currently Amended) A transmitter comprising:  
a sensor that serves to register a physical quantity (X) and convert such into an electrical quantity;

electronics that convert the electrical quantity into a measurement signal and that make the measurement signal available over an electrical current-loop output in the form of a signal current (I) corresponding to the physical quantity; and

a pick-up unit having a magnetoresistive element, whose resistance changes as a function of the magnetic flux ( $\Phi$ ) produced by the signal current (I) wherein:

said regulating circuit has a transistor, that is turned-on in operation by a measured-value-dependent control signal generated by said electronics, and

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said electronics includes a regulating circuit for adjustment of the signal current (I) as a function of the measurement signal.

20. (Currently Amended) A transmitter comprising:

a sensor that serves to register a physical quantity (X) and convert such into an electrical quantity;

electronics that convert the electrical quantity into a measurement signal and that make the measurement signal available over an electrical current-loop output in the form of a signal current (I) corresponding to the physical quantity; and

a pick-up unit having a magnetoresistive element, whose resistance changes as a function of the magnetic flux ( $\Phi$ ) produced by the signal current (I) wherein:

~~the an~~ instantaneous signal current registered by means of said pick-up unit is fed to said regulating circuit for regulation of the physical-quantity-dependent, signal current (I); and

a regulating behavior of said regulating circuit is adjustable by one or more adjustment variables (K1, K2, K3).

21. (Cancelled).

22. (Currently Amended) The transmitter as claimed in claim 19, wherein:

said pick-up unit is galvanically separated from the electrical ~~current~~ current-loop output.